

1 TO WHOM IT MAY CONCERN:

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3 BE IT KNOWN THAT I, RAYMOND A. LIBERATORE, a  
4 citizen of the United States of America, residing in  
5 Bentonville, in the County of Benton, State of  
6 Arkansas, have invented a new and useful improvement in

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10 SPREADER APPARATUS, FOR USE WITH DISPENSERS

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1                   **BACKGROUND OF THE INVENTION**

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3           This invention relates generally to flowable  
4 material spreaders for use on hand manipulable  
5 dispensers, and more particularly to spreaders at the  
6 nozzle ends of such dispensers.

7           There is need for means to easily, quickly  
8 and accurately spread material such as edible  
9 substances, being dispensed from containers such as  
10 squeeze tubes or bottles. Typical materials are peanut  
11 butter, frosting, butter, mayonnaise, jelly and other  
12 edible spreads for use on bread, crackers, and the  
13 like. This need extends to elimination of need for a  
14 separate knife or spatula, as can become lost on or at  
15 outdoor celebrations and picnics, or other events, or  
16 need to repeatedly dip a spreader knife into a jar.  
17 Material accumulates on the knife and jar edges; also,  
18 crumbs or other materials can accumulate in a jar.

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20                   **SUMMARY OF THE INVENTION**

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22           It is a major object of the invention to  
23 provide novel and efficient apparatus meeting the above  
24 need. Basically, the invention is provided for use

1 with a hand manipulable, flowable material dispenser,  
2 and comprises:

3           a) a dispensing nozzle associated with the  
4 dispenser to dispense said material,  
5           b) and a spreader surface associated with  
6 the nozzle whereby the dispenser may be manipulated to  
7 cause the spreader surface to spread material dispensed  
8 via the nozzle, and the spreader surface can be used to  
9 spread the material in desire positions, used as a  
10 built-in spatula or knife without squeezing the  
11 material out. Also , the invention enables squeezing  
12 and spreading at the same time; or spreading only, as a  
13 built-in knife and spatula.

14           As will be seen the spreader surface has the  
15 form of a blade, or flap or spatula surface proximate  
16 the nozzle exit, to shape and spread or move around the  
17 material being dispensed. The spreader may be stiff or  
18 flexible, as will appear, and is typically laterally  
19 elongated or curved to encompass the width of a layer  
20 of material being dispensed. The nozzle itself can be  
21 flexible, to aid in utility of desired spreading of the  
22 material being dispensed.

23           Additional objects include provision of a  
24 spreader nozzle that is attachable as a cap to the exit  
25 end of a container of the material being dispensed;  
26 threaded, permanent or snap-on attachment of the

1 spreader nozzle to the container; the provision of a  
2 serrated laterally extending edge on the spreader,  
3 thereby to form striations on a layer of dispensed  
4 material; the provision of a serrated edge at the  
5 discharge end of the nozzle; and the provision of a  
6 spreader with movement adjusted on the nozzle, as will  
7 be seen.

#### 8 9 DRAWING DESCRIPTION

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11 Fig. 1 is a side view of a spreader;  
12 Fig. 2 is a perspective top view of the Fig.  
13 1 spreader;  
14 Fig. 3 is a frontal view of a spreader  
15 dispensing opening;  
16 Fig. 4 is a view like Fig. 2, but showing a  
17 spreader flexible dispensing nozzle;  
18 Fig. 5 is a side view of a spreader nozzle;  
19 Fig. 6 is a top plan view of a spreader cap;  
20 Fig. 7 is a view of an entrance at the inlet  
21 end of a spreader as in Fig. 5;  
22 Fig. 8 is like Fig. 7, showing a different  
23 entrance configuration;  
24 Fig. 9 is a side elevation showing the end of  
25 a container to which a spreader cap attaches;

1           Fig. 10 is a frontal view of the Fig. 9  
2 container end;

3           Fig. 11 is a side elevation showing a  
4 spreader or narrowed configuration;

5           Fig. 12 is a side elevation of the discharge  
6 end of a container to which the Fig. 11 spreader  
7 attaches;

8           Fig. 13 is a top plan view of a spreader  
9 discharge end, with a serrated edge;

10          Fig. 14 is a view like Fig. 13 showing a  
11 nozzle discharge end with serrated edge;

12          Fig. 15 is a side elevation showing a nozzle  
13 with a retracted movable spreader, and control;

14          Fig. 16 is a view like Fig. 15, showing the  
15 movable spreader in extended position;

16          Fig. 17 is like Fig. 15, but showing the  
17 movable retractable spreader at the underside of the  
18 nozzle;

19          Fig. 18 is a top plan view of a nozzle with  
20 an associated retractable and extendable spreader;

21          Fig. 19 shows a modified nozzle and spreader;

22          Fig. 19a shows the Fig. 19 spreader in tilted  
23 position, for spreading use; and

24          Fig. 20 shows a curved flap or blade.

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## DETAILED DESCRIPTION

In Figs. 1 and 2, a dispensing container 10 contains dispensable, flowable food material such as peanut butter, jelly or other such edibles such as referred to above. When the container is squeezed, the material flows through a nozzle 11 which tapers toward an outlet 12, which is elongated laterally, to provide a dispensed layer 13 of material of thickness 14 substantially less than its width 15. A flexible spreader 17 in the form of a flap or blade, or spatula, is provided at the nozzle exit, to face the layer 13 exiting from the nozzle, whereby the user can manipulate the spreader, and its undersurface, via container manipulation, to further spread or shape the dispensed layer 13. The flap or blade may be stiff or sufficiently flexible to shape the layer 13. Note its lateral length 19 substantially greater than its width.

The nozzle 11 may be stiff or may be flexible as in Fig. 4 to assist flexing of the spreader during container manipulation to cause the spreader to shape the layer 13 deposited on a surface 21 or spread it only after it is dispensed. The latter may be a food surface such as on bread, or other substances. Fig. 3

1 shows the nozzle outlet 22, which has lateral width 22a  
2 substantially greater than its thickness 22b. The  
3 nozzle may be a cap on the container, or may be  
4 integral with the container. A snap-on or threaded  
5 fitting 24 connects the nozzle to the container, in  
6 Fig. 4.

7 Figs. 5 and 6 show a nozzle 32, tapering  
8 toward a narrowed exit 33 with a spreader flap or blade  
9 34 overhanging that exit. Fig. 6 shows a cap 190 that  
10 receives the nozzle with snap-ring retention at 188 in  
11 a cap recess 188a of nozzle end 32a. Cap inner wall  
12 189 forms a recess to receive the nozzle. A plug 192  
13 on the cap plugs outlet 33. Fig. 7 shows the exit 33  
14 as laterally, elongated with narrowed width or height.  
15 The nozzle entrance is seen at 34, in Fig. 8. Fig. 9  
16 shows dispenser threads 36 to which the nozzle may  
17 threadably or otherwise attach. Fig. 10 shows in  
18 frontal view the annular end of the thread 36. See end  
19 opening 10a.

20 Fig. 11 shows a flexible nozzle 40 that  
21 tapers toward an outlet 41, such as an elongated slit.  
22 The nozzle tip 40a serves as a spreader. The nozzle  
23 has a fitting 43 that threadably attaches to dispenser  
24 threads 44, as seen in Fig. 12.

25 Fig. 13 shows a spreader flap 46 that has a  
26 laterally elongated serrated edge 47 to engage the

1 dispensed layer 48 being dispensed. As a result, the  
2 layer 48 has an attractive striated appearance. The  
3 nozzle can be waved laterally back and forth to produce  
4 wavy elongated striations on the dispensed layer  
5 surface. Fig. 14 shows similar serrations 50 on the  
6 end of a nozzle 40b. A flap 51 can be attached to the  
7 nozzle to overlies the serrations, or part of same.

8 In Fig. 15, the flap or blade 60 is carried  
9 for adjustable movement, as by a carrier or adjuster 61  
10 on the nozzle. A finger engagable protrusion 61a on  
11 the carrier is manipulated to move or slide the blade  
12 and carrier toward or away from the nozzle exit 41a,  
13 thereby to adjust the exposure of the blade to the  
14 dispensed material, to provide additional flexibility  
15 of use of the blade. Grooving 63 in the nozzle in the  
16 form of a threaded cap 63a, guides the adjuster. Fig.  
17 16 shows the blade in extended forward position. The  
18 dispensing nozzle cavity appears at 64. Fig. 18 is a  
19 top plan view of the Fig. 16 adjuster. Fig. 17 shows  
20 the adjuster at the bottom side of the nozzle 93,  
21 having an exit 93a, and pusher. The option of  
22 depositing the layer 113 without interference with the  
23 spreader flap or blade, is preserved.

24 In Fig. 19, a spreader 110 blade or flap 110a  
25 carried at 111 by, and may be fixedly or releasably  
26 attached to or integral with, a nozzle 112. See bond



1 zone at 111. The spreader and nozzle are shown being  
2 moved to the right. See arrow 125, and a layer of  
3 dispensable material 113 is deposited on substrate 126,  
4 via bore 112a of the nozzle. Material 113 is typically  
5 edible, and may consist for example of peanut butter,  
6 butter, frosting, mayonnaise, jam, jelly, soft cheese,  
7 or other edibles.

8 In Fig. 19, the spreader 110 as supported is  
9 angled, relative to the nozzle or its bore, so that the  
10 spreader flap terminal 110a' is sufficiently offset  
11 from the nozzle outlet 112a by a sufficient distance,  
12 that the terminal tip 110a' does not engage the top  
13 113a of the deposited layer 113, as during depositing  
14 of the layer. Terminal 110a' may consist of an  
15 elastomer such as rubber. Outlet 112a may be laterally  
16 elongated as in Fig. 7.

17 In Fig. 19a the nozzle is now further tilted,  
18 as at angle  $\alpha$ , so that the spreader blade terminal tip  
19 110a' engages the surface of the layer 113, for  
20 spreading purposes. Terminal 110a is shown as  
21 arcuately flexed near the tip, to smoothly engage and  
22 spreadably deform surface 113a, as the nozzle is moved  
23 to the right, relative to 113. Note that the spreader  
24 body at 110c upwardly of terminal 110a' is thickened so  
25 as not to flex, and so as to positively position the

1 terminal 110a' as it accurately wipes along surface  
2 113a. Terminal 110a' may or may not be flexible, but  
3 is preferably arcuately flexible to smooth and spread  
4 surface 113a, as the nozzle and supply container are  
5 manipulated.

6           Body 110c tapers toward the tip or terminal.  
7 This construction, as shown, lends itself to ease of  
8 cleaning of interior surfaces 128, 129, and 130, as  
9 well as cleaning of the terminal. Note the greater  
10 than 90° angularities of adjacent surfaces 128 and 129,  
11 and 129 and 130, avoiding small gaps. The spreader  
12 terminal at 110a' may have elongated lateral length, of  
13 dimension substantially greater than the nozzle  
14 discharge opening dimension, as described above in  
15 other Figures, for engaging the widened surface area of  
16 113, achieved during spreading.

17           Fig. 20 shows a curved flap or blade to  
18 conform to curvature of an edible, such as a corn cob.  
19 See laterally elongated nozzle outlet 22 having  
20 narrowed width 22b. A downwardly concave spreader flap  
21 or blade 17a is shown as above the outlet 22, and of  
22 lateral elongation greater than outlet 22 lateral  
23 elongation, indicated at 22a.

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